

### ABSTRACT OF THE DISCLOSURE

A CM system for the defense of aircraft against missile attack leverages nanocrystal technology to provide safe and reliable protection. The CM system generally includes one or more ground-based laser emitter subsystems, one or more ground-based Doppler-sensitive radar subsystems, an aircraft-based nanocrystal dispenser subsystem, and an engagement control subsystem that governs the operation of the CM system. In response to the detection of a missile within an attack envelope, the engagement control subsystem instructs the dispenser subsystem to release nanocrystals into an area proximate the aircraft. In addition, the engagement control subsystem instructs one or more of the laser emitter subsystems to direct an excitation signal at the dispensed nanocrystal "cloud" to thereby cause the nanocrystals to emit infrared radiation that approximates that of jet engine exhaust. The properties of the nanocrystals and the excitation signal are selected to ensure that the emitted radiation provides an effective decoy for the missile seeker system.